



TWO PIECE KELLY VALVES OPERATION AND MAINTENANCE PROCEDURE REV 1 –

06/05

ASSEMBLY PROCEDURE FOR THE TWO PIECE KELLY VALVES

1.0 SCOPE

- 1.1 This procedure will provide general instructions regarding assembly of the LK525 / LK600 / LK637 / LK650 / ML675 / ML750 valves.

2.0 REFERENCES

- 2.1 The latest revision of the following specifications may be used to obtain additional information regarding this procedure.
- Packard Quality Procedures Manual.
 - API Specification 7-1 latest edition.
 - Bill of materials.

3.0 ASSEMBLY PROCEDURE

- 3.1 Clean valve body and all internal parts.
- 3.2 Fit Operator (stem) and both Seats with new O rings. O ring elastomer must be compatible with drilling environment. Seats should include new Teflon seal.
- 3.3 Insert Belleville Spring into the Lower Sub. O.D. contact point of Spring should touch Valve Body, and I.D. contact point of Spring should touch Lower Seat.
- 3.4 Insert Seat into the Lower Sub. The Ball will ride on radial surface of Seat.
- 3.5 Insert Operator (stem). The tang should be parallel with valve bore, representing closed position of Ball.
- 3.6 Insert Ball in closed position. 1/8" diameter hole should be toward box end of Valve Body.
- 3.7 Insert Seat into the Upper Sub with radial surface toward Ball.
- 3.8 Apply suitable thread dope to connections of Upper Sub and Valve Body.
- 3.9 Recommended: Dope base to include 40% to 60% (by weight) finely powdered zinc or lead.
- 3.10 Screw Upper Sub into the Lower Sub. Make-up shoulders by hand with chain tongs or equivalent.

- 3.11 Torque Lower Sub to Upper Sub:

TWO PIECE KELLY VALVE	TORQUE IN FT/LBS +500 / -0
LK525	16,900
LK600	17,500
LK637	24,500
ML675	38,000
ML750	38,900

4.0 HYDROSTATIC TEST VALVE

- 4.1 Testing shall be performed in accordance with the test pressure and procedures outlined in API Specification 7-1 latest edition.

HYDROSTATIC TESTING PRESSURES			
MINIMUM PRESSURE WORKING RATING		MAXIMUM HYDROSTATIC SHELL TEST PRESSURE	
psi	MPa	psi	MPa
5000	34.5	10,000	68.9
10,000	68.9	15,000	103.4
15,000	103.4	22,500	155.1

Note: test pressure shall be stabilized prior to the timing start for holding pressure

- 4.2 Install the test plugs and cap on both box and pin connections of the valve assembly to be tested.
- 4.3 Install the pressure line to the bottom (Pin) connection of the valve.
- 4.4 With bleed valve on the top of the test plug in the open position, fill the body with water until it bleeds through the open valve. Actuate the valve several times to eliminate any trapped air in the valve body.
- 4.5 Close the bleed valve.
- 4.6 With the wrench turn the Kelly valve to the half-open position.
- 4.7 Conduct the Hydrostatic test per the lasted revision of API Specification 7-1.
- 4.7.1 Engage pump and increase pressure to test pressure from Table above and stabilize. After stabilization of pressure, the valve will be held at pressure for three (3) minutes minimum with no detectable

pressure drop or leakage.

4.7.2 At the elapse of three minutes, the pressure will be reduced to zero.

4.7.3 Engage pump a second time to increase the pressure to the test pressure per Table 1.1 and hold for a minimum of 10 minutes.

4.8 Release the pressure on the assembly, assign the serial number, and complete the test chart

DISASSEMBLY PROCEDURE FOR THE ML675 VALVE

1.0 SCOPE

1.1. This procedure will provide general instructions regarding disassembly of the Two Piece Kelly Valve.

2.0 REFERENCES

2.1. The latest revision of the following specifications may be used to obtain additional information regarding this procedure.

- Packard Quality Procedures Manual.
- API Specification 7-1 latest edition.
- Bill of materials.

3.0 DISASSEMBLY PROCEDURE

- 3.1. Break Lower Sub from Upper Sub.
 - 3.2. Unscrew Upper Sub from Lower Sub.
 - 3.3. Remove all internal parts. Ball will need to be in closed position.
 - 3.4. Thoroughly clean all parts and valve body. Used parts should be inspected prior to re-use.
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PREPARING THE TWO PIECE LOWER KELLY VALVE FOR INSTALLATION

1.0 SCOPE

1.1. This procedure will provide general instructions regarding installation of the Two Piece Kelly Valve.

2.0 REFERENCES

2.1. The latest revision of the following specifications may be used to obtain additional information regarding this procedure.

- Packard Quality Procedures Manual.
- API Specification 7-1 latest edition.
- Bill of materials.

3.0 INSTALLATION PROCEDURE

3.1. Clean shipping thread dope from threaded connections and apply thread dope suitable for drill string use.

3.2. Recommended: Dope base to include 40% to 60% (by weight) finely powdered zinc or lead.

NOTE: Failure to follow the above procedure explicitly may result in damage and subsequent premature valve failure.



ISO9001:2008 # 0163 API # 7-1-0207